January 2005

Nebraska Tractor Test 1849: AGCO GT55A Diesel

NEBRASKA TRACTOR TEST 1849
AGCO GT55A DIESEL
16 SPEED

POWER TAKE-OFF PERFORMANCE

Power HP *(kW)*	Crank shaft speed rpm	Gal/hr *(l/h)*	lb/hp.hr *(kg/kW.h)*	Hp.hr/gal *(kW.h/l)*	Mean Atmospheric Conditions
MAXIMUM POWER AND FUEL CONSUMPTION					
Rated Engine Speed—(PTO speed—1077 rpm)					
58.89 *(43.92)*	2200	4.02 *(15.22)*	0.480 *(0.292)*	14.65 *(2.89)*	
Standard Power Take-off Speed - (1000 rpm)					
57.80 *(43.10)*	2043	3.85 *(14.57)*	0.468 *(0.285)*	15.02 *(2.96)*	
VARYING POWER AND FUEL CONSUMPTION					
58.89 *(43.92)*	2200	4.02 *(15.22)*	0.480 *(0.292)*	14.65 *(2.89)*	Air temperature
52.76 *(39.34)*	2312	3.80 *(14.39)*	0.506 *(0.308)*	13.88 *(2.73)*	77°F *(25°C)*
39.93 *(29.77)*	2347	3.03 *(11.48)*	0.533 *(0.325)*	13.17 *(2.59)*	Relative humidity
--- ---	Unable to run, see note			--- ---	52%
--- ---	Unable to run, see note			--- ---	Barometer
--- ---	2379	1.15 *(4.36)*	--- ---	--- ---	28.47"Hg *(96.41 kPa)*

Maximum Torque 185 lb.-ft. *(250 Nm)* at 1349 rpm
Maximum Torque Rise - 31.3%
Torque rise at 1802 rpm - 13%

TRACTOR SOUND LEVEL WITH CAB	Front wheel drive Engaged dB(A)	Front wheel drive Disengaged dB(A)
At no load in 9th (1HL) gear	78.7	78.7
Bystander		--

TIRES AND WEIGHT

	Tested Without Ballast
Rear Tires–No., size, ply & psi *(kPa)*	Two 420/70R30;**;16 *(110)*
Front Tires–No., size, ply & psi *(kPa)*	Two 360/70R20;***;20 *(135)*
Height of Drawbar	16.0 in *(405 mm)*
Static Weight with operator– Rear	3745 lb *(1699 kg)*
– Front	2655 lb *(1204 kg)*
– Total	6400 lb *(2903 kg)*

Location of tests: Nebraska Tractor Test Laboratory, University of Nebraska, Lincoln Nebraska 68583-0832
Dates of Test: May 17-26, 2005

Manufacturer: SAME Deutz-Fahr Italia S.p.A. Viale F. Cassini, 15, 24047 Treviglio (BG) Italy

FUEL, OIL and TIME: Fuel No. 2 Diesel **Specific gravity converted to 60°/60° F *(15°/15°C)*** 0.8437 **Fuel weight** 7.025 lbs/gal *(0.842 kg/l)* **Oil SAE** 15W40 **API service classification** CF-4 **Transmission and hydraulic lubricant** AGCO Power Fluid 821 XL fluid **Total time engine was operated** 13.0 hours

ENGINE: Make SAME Deutz-Fahr Diesel **Type** three cylinder vertical with turbocharger **Serial No.** 1000.3WT3E*1262* **Crankshaft** lengthwise **Rated engine speed** 2200 **Bore and stroke** 4.134" x 4.547" *(105.0 mm x 115.5 mm)* **Compression ratio** 16.0 to 1 **Displacement** 183 cu in *(3000 ml)* **Starting system** 12 volt **Lubrication** pressure **Air cleaner** one paper element **Oil filter** one full flow cartridge **Oil cooler** engine coolant heat exchanger for crankcase oil **Fuel filter** one paper element and water separator **Muffler** underhood **Exhaust** horizontal **Cooling medium temperature control** one thermostat

ENGINE OPERATING PARAMETERS: Fuel rate: 26.9 - 28.8 lb/h *(12.2 - 13.1 kg/h)* **High idle:** 2400 - 2430 rpm **Turbo boost:** nominal 10.2 - 11.3 psi *(70 - 78 kPa)* as measured 10.7 psi *(74 kPa)*

CHASSIS: Type front wheel assist **Serial No.** GT55A4TN4120009 **Tread width** rear 55.1" *(1400 mm)* to 75.0" *(1904 mm)* front 57.5" *(1460 mm)* to 69.1" *(1754 mm)* **Wheelbase** 80.9" *(2056 mm)* **Hydraulic control system** direct engine drive **Transmission** selective gear fixed ratio **Nominal travel speeds mph *(km/h)*** first 0.83 *(1.34)* second 1.04 *(1.67)* third 1.32 *(2.12)* fourth 1.64 *(2.64)* fifth 2.10 *(3.38)* sixth 2.60 *(4.18)* seventh 3.32 *(5.34)* eighth 4.11 *(6.61)* ninth 4.59 *(7.39)* tenth 5.70 *(9.17)* eleventh 7.28 *(11.72)* twelfth 9.02 *(14.52)* thirteenth 11.52 *(18.54)* fourteenth 14.36 *(23.11)*, fifteenth 18.26 *(29.39)* sixteenth 22.65 *(36.45)* reverse 0.98 *(1.58)*, 1.55 *(2.49)*, 2.47 *(3.98)*, 3.90, *(6.28)*, 5.40, *(8.69)*, 8.56 *(13.78)*, 13.57 *(21.84)*, 21.48 *(34.57)* **Clutch** single dry disc operated by foot pedal **Brakes** single wet disc hydraulically operated by two foot pedals which can be locked together **Steering** hydrostatic **Power take-off** 540 rpm at 1967 engine rpm or 1000 rpm at 2043 engine rpm **Unladen tractor mass** 6225 lb *(2824 kg)*

THREE POINT HITCH PERFORMANCE (OECD Static Test)

CATEGORY: II		
Quick Attach: None		
Maximum Force Exerted Through Whole Range:	3414 lbs	*(15.2 kN)* (at frame)
	3802 lbs	*(16.9 kN)* (at link ends)
i) Opening pressure of relief valve:	NA	
Sustained pressure of the open relief valve:	2709 psi	*(187 bar)*
ii) Pump delivery rate at minimum pressure and rated engine speed:	12.5 GPM	*(47.3 l/min)*
iii) Pump delivery rate at maximum hydraulic power:	12.5 GPM	*(47.3 l/min)*
Delivery pressure:	2506 psi	*(173 bar)*
Power:	18.3 HP	*(13.6 kW)*

THREE POINT HITCH PERFORMANCE

Observed Maximum Pressure psi. *(bar)*	2650 *(183)*
Location:	lift cylinder
Hydraulic oil temperature: °F *(°C)*	165 *(74)*
Location:	hydraulic valve
Category:	II
Quick attach:	none

SAE Static Test—System pressure 2385 psi *(164 Bar)*

Hitch point distance to ground level in. *(mm)*	8.0 *(203)*	15.0 *(381)*	22.0 *(559)*	29.0 *(737)*	36.0 *(914)*
Lift force on frame lb	5495	4895	4619	4471	4265
" " " " " " *(kN)*	*(24.4)*	*(21.8)*	*(20.5)*	*(19.9)*	*(19.0)*

NOTE: This tractor has an electronic control that disengages the PTO when the PTO speed exceeds 1165 rpm.

REPAIRS AND ADJUSTMENTS: No repairs or adjustments

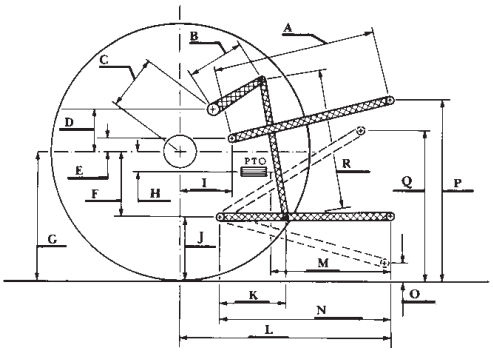
REMARKS: All test results were determined from observed data obtained in accordance with official OECD, SAE and Nebraska test procedures. This tractor did not meet the manufacturer's claims of 14.0 GPM *(53.0 lpm)* hydraulic flow at remote outlets nor lift capacity at ball ends of 6393 lbs *(2900 kg)*. The engine high idle was not adjusted within the manufacturers specified range. For the maximum power tests, the fuel temperature at the injection pump inlet was maintained at 134°F *(56°C)*.

We, the undersigned, certify that this is a true and correct report of official Tractor Test No. **1849,** July 21, 2005.

Leonard L. Bashford
Director

M.F. Kocher
V.I. Adamchuk
W.P. Campbell
Board of Tractor Test Engineers

	SAE test		OECD test	
	inch	*mm*	inch	*mm*
A	23.0	*584*	23.6	*600*
B	10.1	*257*	10.1	*257*
C	13.5	*342*	13.5	*342*
D	11.5	*292*	11.5	*292*
E	13.6	*346*	13.6	*346*
F	5.1	*130*	5.1	*130*
G	26.2	*665*	26.2	*665*
H	0.4	*11*	0.4	*11*
I	18.3	*464*	18.3	*464*
J	21.1	*535*	21.1	*535*
K	16.0	*406*	16.0	*406*
L	39.5	*1004*	39.5	*1004*
M	22.2	*563*	22.2	*563*
N	33.3	*845*	33.3	*845*
O	8.0	*203*	8.0	*203*
P	40.1	*1018*	45.1	*1145*
Q	34.3	*870*	34.3	*870*
R	23.8	*603*	23.8	*603*



HITCH DIMENSIONS AS TESTED - NO LOAD

AGCO GT 55A Diesel

Institute of Agriculture and Natural Resources
University of Nebraska–Lincoln